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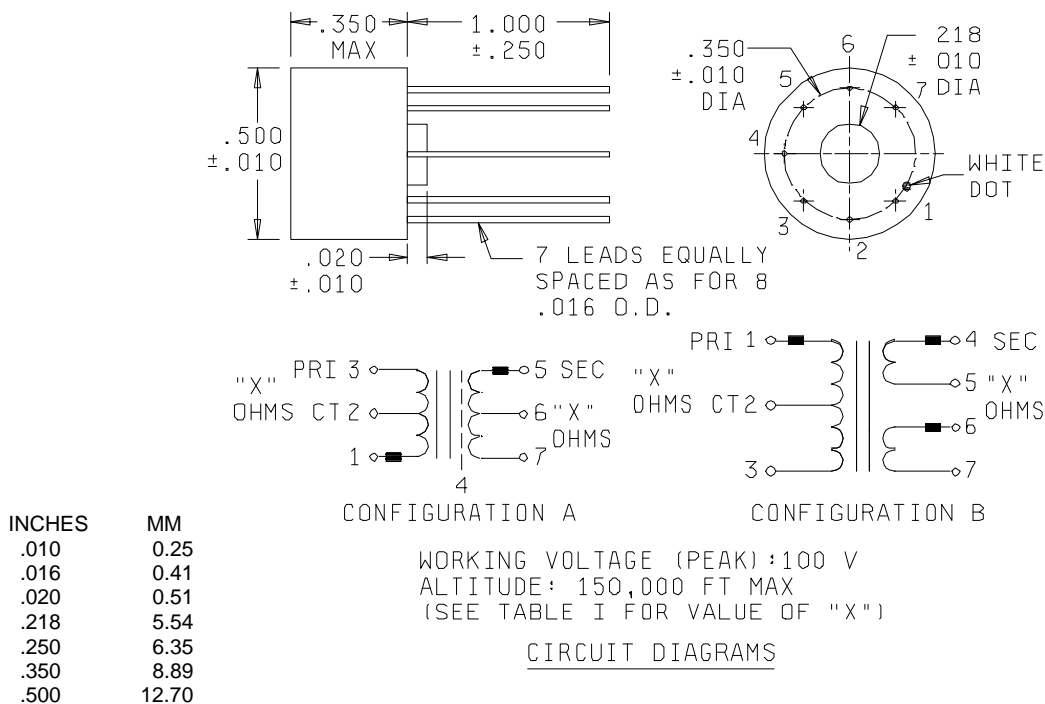
MIL-PRF-27/361  
4 April 1985

# PERFORMANCE SPECIFICATION SHEET

## TRANSFORMERS, AUDIO FREQUENCY, TF5S21ZZ

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for acquiring the transformer described herein shall consist of this specification and the latest issue of MIL-T-27.



### NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Marking shall be in the side of the case.
4. Primary and secondary electrical values shall be marked as specified in table I, as applicable.
5. The number of terminals shall be as shown in circuit diagram "A" and "B".

FIGURE 1. Dimensions and configuration.

REQUIREMENTS: (When numbers in parentheses, i.e. (1-2), they indicate the winding and the extreme terminals of the winding).

Electrical ratings: See table I.

Working voltage (peak): 100 volts.

Frequency range: 300 hertz to 75 kilohertz.

Design and construction:

Dimensions and configuraton: See figure 1.

Duty cycle: Continuous.

Case: Encapsulated.

Altitude: 150,000 feet, maximum.

Terminals: Dumet wire leads.

Material: Tin-lead plated type D4 in accordance with MIL-STD-1276.

Diameter: .016 inch.

Length: 1.000  $\pm$ .250 inch.

Weight: 5.0 grams, maximum.

Operating temperature range: -55°C to +130°C.

Terminal strength: MIL-STD-202, method 211, test condition A, 2 pounds.

Dielectric withstanding voltage:

At sea level: 200 volts rms.

At reduced barometric pressure: 200 volts rms.

Electrical characteristics: See table II.

No load (centertap unbalance only): 1 percent with 5 volts, 5 kilohertz across the primary.

Harmonic distortion: Total harmonic content of the output shall be a maximum .5 percent at the specified power level and primary dc current (see table I).

Insertion loss: At the specified power level (see table I), the insertion loss shall be a maximum of 3 dB.

Frequency response:  $\pm$ 3 dB at the rated source and load impedances (see table II) with 1 milliwatt level output and a reference frequency of 1 kilohertz.

Vibration (high frequency): MIL-STD-202, method 204, test condition B.

Shock (specified pulse): MIL-STD-202, method 213, test condition I.

Marking location: See figure 1.

Part number: M27/361- (dash number from table I).

TABLE I. Electrical ratings. 3/

Dash no.	Circuit diagram	Primary impedance (ohms) (1-3)	Secondary impedance (ohms) <u>1/</u>	Primary dc current (mA)	Power level at 1 kHz (max) (watts)	Primary dc resistance $\pm 25\%$ (ohms)	secondary dc resistance $\pm 25\%$ (ohms)
01	B	150 CT	150 split (4-7)	11	.6	13	18.3
02	B	150 CT	600 split (4-7)	11	"	13	75
03	B	600 CT	600 split (4-7)	5.5	"	57	79
04	A <u>2/</u>	600 CT	600 CT (5-7)	5.5	"	53	75
05	B	600 CT	1,200 split (4-7)	5.5	"	53	105
06	A <u>2/</u>	2,000 CT	2,000 CT (5-7)	3	"	198	218
07	B	2,000 CT	8,000 split (4-7)	3	"	198	850
08	B	10,000 CT	10,000 split (4-7)	1.4	"	865	1215
09	A <u>2/</u>	10,000 CT	10,000 CT (5-7)	1.4	"	1060	1215
10	B	15,000 CT	600 split (5-7)	1	"	1305	72.5

1/ Where windings are listed as SPLIT, one-fourth of the listed impedance is available by paralleling the windings.

2/ Includes electrostatic shield. Voltage ratio shall be 2 to 1 at 20 kHz.

3/ QUALITY ASSURANCE PROVISIONS:

Extent of qualification:

Qualification testing and approval to M27/362-12 shall be sufficient to grant qualification approval to MIL-T-27/361 through MIL-T-27/363 inclusive, all parts.

Qualification testing and approval to M27/361-10 shall be sufficient to grant qualification approval to M27/361-01 through M27/361-10.

TABLE II. Electrical characteristics.

Dash no	Frequency response: $\pm 3$ db at 300 Hz to 75 kHz and 1 mW		Resonance, <sup>1/</sup> self resonant frequency kHz (min)	Polarity: Additive with terminals (below) connected
	$Z_S$ (ohms)	$Z_L$ (ohms)		
01	150 CT (1-3)	150 split (4-7)	1300	(3-4) and (5-6)
02	150 CT (1-3)	600 split (4-7)	1300	(3-4) and (5-6)
03	600 CT (1-3)	600 split (4-7)	600	(3-4) and (5-6)
04	600 CT (1-3)	600 CT (5-7)	600	3 and 5
05	600 CT (1-3)	1,200 split (4-7)	600	(3-4) and (5-6)
06	2,000 CT (1-3)	2,000 CT (5-7)	275	3 and 5
07	2,000 CT (1-3)	8,000 split (4-7)	275	(3-4) and (5-6)
08	10,000 CT (1-3)	10,000 split (4-7)	120	(3-4) and (5-6)
09	10,000 CT (1-3)	10,000 CT (5-7)	120	3 and 5
10	15,000 CT (1-3)	600 split (4-7)	90	(3-4) and (5-6)

<sup>1/</sup> Self resonant frequency is measured with secondaries carrying the specified load and the secondary voltage observed.

Custodians:  
 Army - ER  
 Navy - EC  
 Air Force - 85

Preparing activity:  
 Army - ER  
 (Project 5950-0639-1)

Review activities:  
 Army - MI  
 Navy - OS, SH  
 Air Force - 11, 17, 99  
 DLA - ES

User activities:  
 Army - AR, WC  
 Navy - AS, MC  
 Air Force - 19

Agent:  
 DLA - ES